AMENDMENTS TO THE SPECIFICATION

Paragraph numbers refer to the published application.

Please add the following new paragraph [0013.1] after paragraph [0013]:

[0013.1] FIG. 2B depicts a groove pattern in accordance with the present invention.

Please replace paragraph [0027] with the following amended paragraph:

[0027] One solution to this problem would be to use the axial shaft displacement to change the length of the asymmetry created by the journal bearings 300. However, the axial displacement required to effectively counter the pressure changes would likely be too great to be practically incorporated. In the embodiment illustrated in FIG. 2, journal asymmetry pressure fluctuations are countered by changing the gap width between the shaft 202 and sleeve 208 in the asymmetric portions of the journal bearings 300A. This is accomplished by creating a step 260 on the journal surface 215, 219 that is opposite the asymmetric grooves 300. In FIG. 2[[A]], the step 260 is located on the inner diameter 215 of the sleeve 208, opposite the journal bearing grooves 300 on the shaft 202. The step 260 is also offset axially from the grooves 300, so that when the motor 200 is at rest, the gap separating the grooved portion of the shaft 202 from the sleeve 208 is a standard width w_1. Although there is a small axial overlap of the step and grooves, the apex 304 of the grooves 300 is generally adjacent a gap of standard width w_1. Thus, as the shaft 202 moves downward, the grooves 300 move closer axially to the step 260, and the width of the gap separating the upper portion of the grooved area (i.e., mostly the upper leg of the groove pattern) of the shaft 202 from the sleeve 208 shrinks to a gap w_2 As the gap in this region tightens, more pressure is built up at the bottom of the shaft 202, and the pressure pushes the shaft back up. Furthermore, this design provides additional stiffness (pressure change vs. axial movement of shaft) to the motor, reducing or eliminating the need for either a thrust plate with grooves or for a tight thrust gap, which draws constant power.

Please replace paragraph [0029] with the following amended paragraph:

[0029] FIG. 3 illustrates a second embodiment of the present invention. The motor 400 is configured similarly to the motor 200 in FIG. 2[[A]]. However, in FIG. 3, the step 460 is formed on the outer diameter 419 of the shaft 402, rather than on the inner diameter 415 of the sleeve 408. The step 460 operates in the same manner as the step 260 in FIG. 2, to narrow the bearing gap and thus counter hydraulic pressure variations.

Please replace paragraph [0030] with the following amended paragraph:

[0030] A third embodiment of the invention is illustrated in FIG. 4. The motor 500 is similar to the motors 200 and 400 illustrated in FIGS. 2[[A]] and 3. However, the journal 517 comprises two steps 560A, 560B located across the journal from each set of asymmetry grooves 300. Although the steps 560A, 560B are depicted as formed on the outer diameter 519 of the shaft 502, it will be appreciated that the steps 560A, 560B may also be formed on the inner diameter 515 of the sleeve 508, as the step 260 is located in FIG. 2[[A]].